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A revision of the Japanese species of the genus *Monochroa* (Lepidoptera, Gelechiidae)

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Abstract Eleven Japanese species of the genus *Monochroa* are revised. *M. kumatai* n. sp. and *M. pallida* n. sp. are new to science. *M. pentameris*, *M. leptocrossa*, *M. hornigi* and *M. divisella* are newly found from Japan. *M. pentameris* and *M. leptocrossa* are transferred from the genus *Aristotelia*. Some members of the Japanese *Monochroa* are redescribed and illustrated in detail.

Key words *Monochroa*, Gelechiidae, new species, new combination, Japan.

About 40 species of the genus *Monochroa* Heinemann, 1870 are recorded all over the Holarctic region, *e.g.* 17 species are recorded from Denmark (Schnack et al., 1985; Buhl et al., 1991, 1992), 13 from the Great Britain (Sokoloff, 1988), 11 from North America (Hodges, 1983) and more than 18 from Russia (Piskunov, 1981). In contrast to these countries or areas, only 6 species were recently recognized or described from Japan (Sakamaki 1993, 1994 and 1996). In this study I have had a chance to examine further species collected from Japan. Two species, *M. kumatai* n. sp. and *M. pallida* n. sp., are new to science. The latter species was once identified as *Paltodora cytisella* (Curtis, 1837) by Sakamaki (1993), but it surely belongs to the genus *Monochroa*. In this connection I agree with the view of Sattler (1992) who treated *Paltodora* Meyrick, 1894 as a junior synonym of *Monochroa*. *M. pentameris* (Meyrick, 1931), n. comb., *M. leptocrossa* (Meyrick, 1926), n. comb., *M. hornigi* (Staudinger, 1883) and *M. divisella* (Douglas, 1850) are newly recorded from Japan. *M. pentameris* and *M. leptocrossa* are transferred from the genus *Aristotelia* Hübner, [1825].

Material and type depository

The material used in this paper comprises more than 250 specimens mostly collected from Japan and partly from Europe (Denmark, Italy, Netherlands).

The genital organs used for observations and drawings were stained with acid fuchsin, chlorazor black E or Evans blue and mounted on slides with Canada balsam. For the determination of wing venations I used materials mounted on slides likewise. In the mounting of genitalia, I followed the method described by Kumata (1977). Holotypes of the new species are deposited in the collection of the laboratory of Systematic Entomology, Hokkaido University, Sapporo (SEHU). Most of the specimens used in this paper are also deposited in Hokkaido University (SEHU), and some ones will be in the Entomological Laboratory, Osaka Prefecture University, Sakai, Osaka (ELUS), and in Osaka Museum of Natural History, Osaka (OMNH).

Genus *Monochroa* Heinemann

Monochroa Heinemann, 1870, *Schmett. Dtl. Schweiz* (2) 2 (1): 308. Type species: *Tinea tenebrella* Hübner, [1817].

Doryphora Heinemann, 1870, *ibid.*: 298 (nom. preocc.). Type species: *Anacamptis pulveratella* Herrich-Schäffer, 1854.

Xystophora Wocke [1876], in Heinemann, *Schmett. Dtl. Schweiz* (2) 2 (2) Tabelle der Gattungen: 6. Type species: *Anacamptis pulveratella* Herrich-Schäffer, 1854.

Catabrachmia Rebel, 1909, in Rothschild, *Rovart. Lap.* 16: 143. Type species: *Catabrachmia csornensis* Rebel, 1909.

Paltodora Meyrick, 1894, *Entomologist's mon. Mag.* 30: 230. Type species: *Cleodora cytisella* Curtis, 1837.

♂ ♀. Face and head smooth scaled, with neck plumes appressed together; ocellus distinct and posterior to antennal scape (in *M. tenebrella*, *M. lutulentella* and *M. cytisella*), rudimentary (in *M. lucidella*, *M. tetragonella* and *M. pallida* n. sp.) or missing. Labial palpus long, curved upwardly; 2nd segment thickened with appressed scales or slightly rough scales ventrally (except in *M. cytisella*, which has spread hair-like scales on labial palpus); terminal segment smooth, about 1.0–1.2 times as long as 2nd segment. Maxillary palpus minute, smooth, 4-segmented, folded over basal part of tongue; terminal segment of maxillary palpus thickened with appressed scales. Antenna filiform, 0.60–0.85 times as long as fore wing; consisting of about 30 segments; scales of each segment arranged in basal and median rings; scape little flattened, 3 times longer than a medial flagellar segment (Fig. 10). Thorax smooth. Legs long and smooth; fore tibia with a single minute calcarium at apex, mid tibia with a pair of calcaria at apex, hind tibia with long or short bristly scales above, and with a pair of calcaria at middle and also at apex; the calcaria at middle of hind tibia longer than those at apex.

Fore wing somewhat broad-lanceolate with an acute apex, with a discal black stigma except for a few species (*M. tenebrella*, *M. cytisella* and *M. pallida* n. sp.); discoidal cell somewhat long, occupying basal 2/3 of wing, nearly parallel-sided, obsolescent basally; 12-veined; R_1 running from middle of cell to about basal 2/3 of costa; R_2 from distal 1/5 of cell; R_3 from near upper angle of cell; R_4 and R_5 stalked, running from upper angle; R_4 branched from middle of R_5 ; M_1 , M_2 and M_3 remote and almost parallel to one another; CuA_1 and CuA_2 also remote and parallel to each other; $1A+2A$ forked at basal 1/6 of wing, running to ventrum over middle of wing, obsolescent basally. Hind wing about as long as fore wing, trapezoidal, with an acute apex and an emarginate and somewhat sinuate termen; 9-veined; R_s running to apex; M_1 running from near R_s and parallel to M_2 ; M_3 running from lower angle of cell to tornus; CuA_1 and CuA_2 short, parallel to each other; CuP obsolescent basally, running to middle of ventrum; anal veins rudimentary.

Male genitalia. Tegumen short, oblong, with a pair of triangular processes in cephalic corners, and with a pair of long setae in caudal corners; tuba analis membranous, wide, short except in *M. japonica*, in which the tuba analis is as long as the valva. Uncus slender, spatulate, weakly sclerotized, with some long and short setae apically. Gnathos absent. Valva more or less broadened, tapering towards apex, with numerous long setae inside; apex of valva oval, turned dorsally or extending into a narrow projection; harpe more or less swollen into oval, with numerous long setae inside; sacculus digitate, with some short setae ventrally. Vinculum slightly widened, with an apically pointed saccus. Aedeagus sigmoid, pyriform or cylindrical; apical half strongly sclerotized; basal half weakly sclerotized, swollen, with an oval side-window caudally; cornuti consisting of more than 10 minute spines.

Female genitalia. Papilla analis weakly sclerotized, moderate in length, with some setae and longitudinal plicae on almost whole surface, and sometimes with numerous minute spines on caudal surface; apophysis posterioris long, slender, slightly swollen at apex. Eighth abdominal segment shortly sclerotized, with some short setae in caudal margin; apophysis anterioris shorter than apophysis posterioris. Vaginal plate weakly sclerotized, separated into a pair of lobes. Ostium bursae membranous; ductus bursae

moderate or long, with coiled plicae or numerous minute spines on caudal half of ductus bursae to cestum; cestum short or long; corpus bursae pyriform, membranous, with a signum various in shape.

Species examined. *M. tenebrella* (Hübner, 1817), *M. tetragonella* (Stainton, 1855), *M. niphognatha* Gozmány, 1957, *M. elongella* (Heinemann, 1870), *M. palstrella* (Douglas, 1850), *M. conspersella* (Herrich-Schäffer, 1854), *M. lucidella* (Stephens, 1834), *M. lutulentella* (Heinemann, 1870), *M. cytisella* (Curtis, 1837), *M. kumatai* n. sp., *M. suffusella* (Douglas, 1850), *M. subcostipunctella* Sakamaki, 1996, *M. divisella* (Douglas, 1850), *M. cleodora* (Meyrick, 1935), *M. cleodoroides* Sakamaki, 1994, *M. japonica* Sakamaki, 1996, *M. hornigi* (Staudinger, 1883), *M. leptocrossa* (Meyrick, 1926), n. comb., *M. pallida* n. sp., *M. pentameris* (Meyrick, 1931), n. comb.

Remarks. The genus *Monochroa* is related to the genera *Eulamprotes* Bradley, 1971, *Daltopora* Povolný, 1979 and *Argolamprotes* Benander, 1945. The genitalia of *Monochroa* are somewhat variable in structure, but the genus is able to be diagnosed by the combination of the following characters: Valva elongated, tapering towards apex; harpe more or less broad, oval, with numerous long setae on inner surface; sacculus digitate; aedeagus with numerous minute cornuti. Among these characters the broad harpe with numerous long setae is the most remarkable.

Colorations of the antenna and labial palpus may be good markers to identify the species of *Monochroa* except for *M. cleodora* and *M. cleodoroides*, because the combination of these characters is discretely variable among species (Fig. 11).

As far as I know, most members of *Monochroa* are associated with herbaceous plants which are found mostly in open lands.

Key to the Japanese species of *Monochroa*

1. Fore wing with more than 4 black stigmata *Monochroa pentameris* n. comb.
- Fore wing at most with 3 black stigmata or without any dark stigmata 2
2. Fore wing at most with 3 black stigmata 3
- Fore wing without a black discal stigma, and ground colour of yellowish ochre darkened towards costa and apex; 2nd segment of labial palpus with somewhat spread hair-like scales ventrally *M. pallida* n. sp.
3. Apex of male valva oval; female signum with numerous spinal processes in cephalic and lateral margins 4
- Apex of male valva turned dorsally or having a small process; female signum with some spinal processes in cephalic margin, sometimes also in caudal margin 5
4. Fore wing dark fuscous; terminal segment of labial palpus dark fuscous with ochre apex; male aedeagus with more than 30 cornuti; apical half of male valva oval-triangular, not emarginated; female signum small, oval, with many dentate processes on almost whole surface *M. kumatai* n. sp.
- Fore wing ochre in costal 2/5, fuscous in ventral 3/5; terminal segment of labial palpus wholly whitish ochre; male aedeagus with about 20 cornuti; apical half of male valva emarginated at ventro-caudal margin; female signum long, narrow, surrounded by many dentate processes *M. divisella*
5. Male aedeagus pyriform; female signum with one or more processes on cephalic and caudal margins 6
- Male aedeagus sigmoid; female signum with one or more processes only on cephalic margin 8
6. Fore wing dark fuscous; terminal segment of labial palpus with a narrow ochre

- band at base *M. hornigi*
- . Fore wing ochre 7
7. A black stigma at apical 1/3 of costa ; female signum with some pairs of processes *M. suffusella*
- . A black stigma at basal 1/3 of subcostal vein ; female signum with a single pair of large processes *M. subcostipunctella*
8. Fore wing brownish ochre, with 3 very oblique white fasciae running in parallel to one another ; cornuti of male aedeagus arranged irregularly ; ventrum of female 8th abdominal segment with U- or V-shaped hollows 9
- . Fore wing variable in colour from whitish ochre to greyish ochre, with 2 oblique fasciae obscure ; cornuti of male aedeagus arranged regularly ; ventrum of female 8th abdominal segment with crescent hollows 10
9. Female cestum short, incompletely ring-shaped ; female signum with a quadrifid process ; female 8th abdominal segment with V-shaped hollows ventrally *M. cleodora*
- . Cestum long, occupying median 1/3 of ductus bursae ; signum with a blunt process ; 8th abdominal segment with U-shaped hollows ventrally *M. cleodoroides*
10. Terminal segment of labial palpus with a fuscous band at apical 1/4 ; female papilla analis with some longitudinal plicae ; female cestum oblong ; ventrum of female 8th abdominal segment without any hollows ; female signum with 2 pairs of minute processes on cephalic margin *M. japonica*
- . Terminal segment of labial palpus with a fuscous band on base and also at apical 1/4 ; papilla analis with numerous minute spines ; cestum triangular ; ventrum of 8th abdominal segment with a pair of crescent hollows ; signum with a bicuspid process on cephalic margin *M. leptocrossa* n. comb.

***Monochroa kumatai* n. sp.** (Figs 1, 7-A, 9-A, 11)

♂ ♀. Expanse of wings : 11.9-12.4 mm. Length of fore wing : 5.4-5.5 mm.

Face brilliant ochre ; head dark brownish fuscous. Labial palpus (Fig. 9-A) dark brownish fuscous ; inside of 2nd segment and apex of terminal segment ochre. Antenna filiform, a little shorter than fore wing, dark fuscous except for scape and 1st, 4th, 8th, 12th and 13th segments from apex, these segments ringed with a whitish ochre band (Fig. 11). Thorax smooth, dark brownish fuscous. Legs fuscous ; apex of each segment of tibiae and tarsi ochre ; hind tibia with an ochre band at middle and rough short ochre bristly scales above. Abdomen fuscous dorsally and becoming pale ventrally.

Fore wing (Fig. 7-A) dark fuscous ; plical and discal stigmata obscure, blackish, somewhat elongated longitudinally ; 2 ochre, obliquely narrow, triangular blotches on costa at apical 1/3 of wing and also on tornus ; 4 purely white minute dots between costal triangular blotch and apex of wing ; 4 similar dots on termen ; cilia pale fuscous, with basal half darkened. Hind wing pale fuscous ; cilia pale fuscous, becoming white towards basal part of wing.

Male genitalia (Figs 1-A, B). Valva elongated, with a rather broad harpe and a digitate sacculus, the harpe with numerous long setae and the sacculus with some short setae ventrally. Uncus short, weakly sclerotized, with 4 long setae apically. Saccus pointed, medium in size. Aedeagus about 1.3 times as long as valva, sigmoid, broadly swollen at basal half ; apical half with a triangular, strongly sclerotized projection, with numerous minute processes on basal margin of this projection ; cornuti numerous and minute.

Female genitalia (Figs 1-C, D). Papilla analis weakly sclerotized, short, with some long and short setae on almost whole surface ; apophysis posterioris long, slender. Eighth

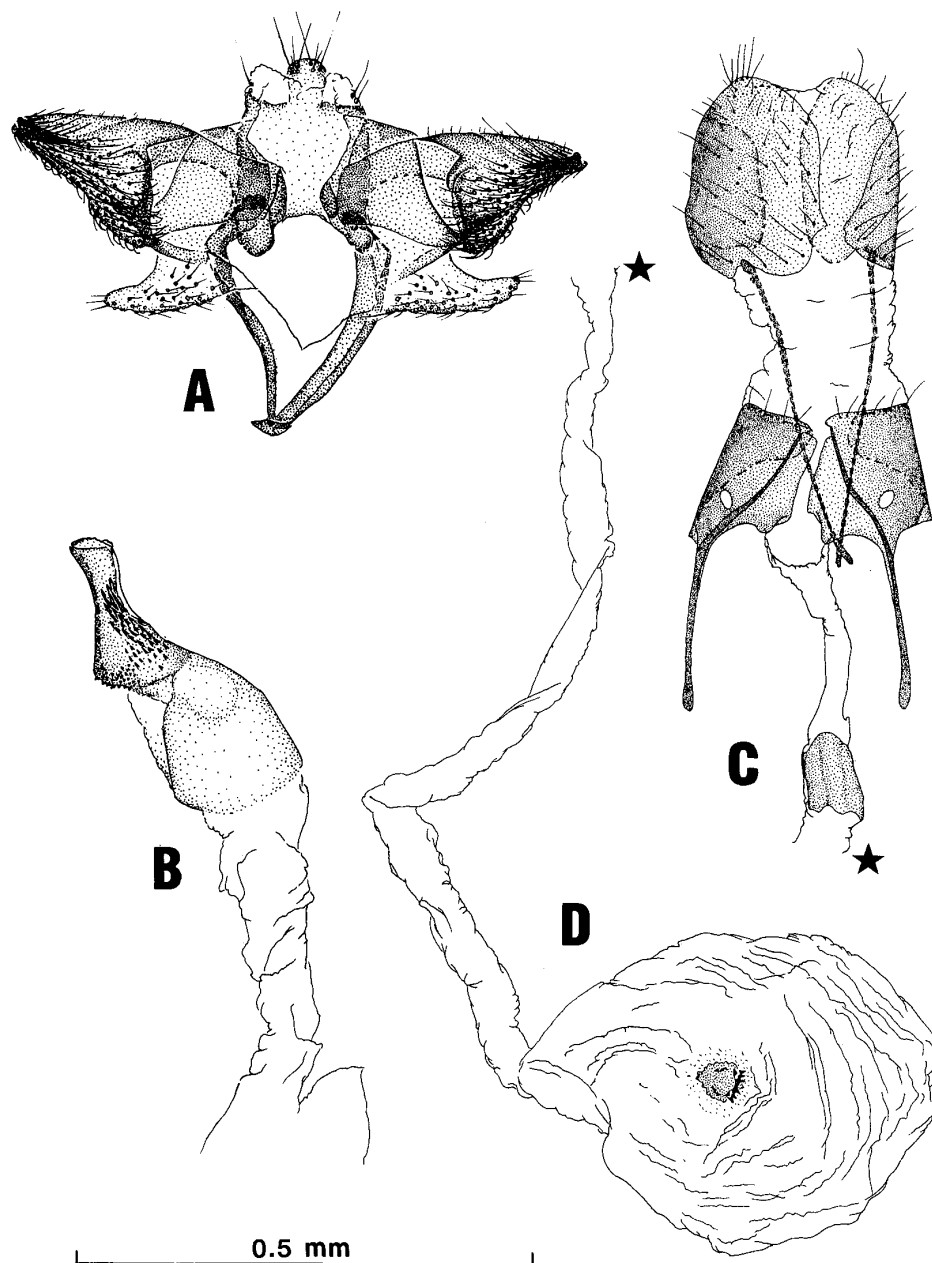


Fig. 1. Genitalia of *Monochroa kumatai* n. sp. A: Male genitalia in caudal view, aedeagus omitted (Gen. sl. no. Gel. 93056, paratype). B: Aedeagus (*ditto*). C: Female genitalia in ventral view, bursa copulatrix omitted (Gen. sl. no. Gel. 92047, holotype). D: Bursa copulatrix (*ditto*).

abdominal segment sclerotized; apophysis anterioris slender, half as long as apophysis posterioris. Vaginal plate weakly sclerotized, separated into a pair of triangular lobes. Ostium bursae membranous; ductus bursae long; cestum arched, short, oblong, placed at caudal 1/5 of ductus bursae; corpus bursae membranous, oval, wrinkled, with an oval signum, which has 3 pairs of minute processes on the cephalic margins.

Specimens examined. Holotype ♀, Okusiri I., Hiyama, Hokkaidō Japan, 14. vii. 1958, T. Kumata leg., Genital slide no. Gel. 92047, in SEHU. Paratypes. JAPAN [Hokkaidō] —1 ♀, Misumai, Sapporo City, 16. viii. 1993, Y. Sakamaki leg.; 2 ♂, Mt Kariba, Simamaki Town, 19–23. vii. 1972, H.U. Ent. Ins. leg.; 2 ♂, same data as holotype, Gen.

sl. no. Gel. 92028, all in SEHU. [Honsyû]—1 ♂, Takigosi, Ôtaki Vill., Nagano Pref., 18. viii. 1992, T. Ueda leg., Gen. sl. no. Gel. 93056, in ELUS.

Distribution. Japan (Hokkaidô, Honsyû).

Host plants. Unknown.

Remarks. This new species is related to *M. inflexella* Svensson, 1992, *M. lutulentella* (Zeller, 1839) and *M. elongella* (Heinemann, 1870), especially to *M. inflexella*, from which it is not clearly distinguished by colour pattern alone. But it is distinctly separated from these three species by some characters. From *M. lutulentella* it is distinguished by the absence of the ocellus. From *M. inflexella* and *M. elongella* it is separated by moderately long cornuti of the aedeagus (0.03 mm in *M. kumatai*; 0.05 mm in *M. inflexella*; 0.015 mm in *M. elongella*) and by the signum with 3 pairs of minute processes on the cephalic margine (in *M. inflexella* signum with little processes, while in *M. elongella* such processes occur on lateral sides of signum) (see Svensson, 1992).

I suggest that *Aristotelia pessocrossa* Meyrick, 1926, is also similar to this new species (see Clarke, 1969), though the two species are easily discriminated by wing markings from each other.

***Monochroa suffusella* (Douglas, 1850) (Figs 7-B, 9-B, 11)**

Gelechia suffusella Douglas, 1850, *Trans. ent. Soc. Lond.* (N.S.) 1: 64.

Doryphora suffusella: Heinemann, 1870, *Schmett. Dtl. Schweiz* (2) 2 (1): 308.

Aristotelia suffusella: Meyrick, 1895, *Handbk Br. Lepid.*: 577.

Xystophora suffusella: Müller-Rutz, 1909, *Mitt. schweiz. ent. Ges.* 11: 345.

Monochroa suffusella: Pierce & Metcalfe, 1935, *Genitalia tineid Families Lepid. Br. Isls*: 3, pl. 1; Svensson, 1980, *Ent. Tidskr.* 101: 76, fig. 9; Buhl *et al.*, 1992, *Ent. Meddr* 60: 5, figs 4, 7; Sakamaki, 1996, *Jap. J. Ent.* 64: 245, figs 1-A, B, 2.

Recently, this species was redescribed by Sakamaki (1996). But the redescription includes a mistake of the colour description of the antenna. The mistake is corrected here as follows. Colour patterns of the antenna are variable among individuals from almost fuscous to wholly whitish. The coloration, however, may be classified into two basic patterns (Fig. 11). In the first pattern, the antenna is whitish ochre in ground colour and banded with fuscous basally in each segment except for the 3rd, 5th, 7th and 9th segments from the apex and some basal segments; the 3rd, 5th, 7th and 9th segments from the apex are wholly fuscous, and some basal segments are whitish ochre with some fuscous scales scattered dorsally. The second pattern is different from the first in the following points: the 4th and 8th segments from the apex are wholly whitish ochre, and the 3rd, 5th, 7th and 9th segments from the apex are normally banded with fuscous basally.

Specimens examined. Additional specimens to Sakamaki (1996). JAPAN [Hokkaidô]—9 ♂, Otiisi, Nemuro City, 21. vii. 1994, K. Sugisima leg.; 1 ♂, Isikari Coast, Isikari Town, em. 21. v. 1995, *ex Juncus effusa* var. *decipiens*, Y. Sakamaki leg.; 1 ♂, Tokisatomappu, Tomakomai City, 4. vii. 1984, T. Kumata leg., in SEHU.

Distribution. Palaearctic region from Europe to Japan (Hokkaidô, Honsyû).

Host plants. *Eriophorum angustifolium* and *Carex* sp. (Cyperaceae) in Europe, *Juncus effusa* var. *decipiens* Buchen. (Juncaceae) (new host record) and *Carex* sp. in Japan.

Biology. Early larvae found in stems of the host plants in the middle spring from mid April to early May, when the host plant grows about 10 cm high. The larvae transfer from a stem to another stem during the growth, and pupate in about mid May therein.

Adults emerge in the early summer from mid June to early July and fly around basal parts of the host plant in day time.

Remarks. A host plant, *Juncus effusa* var. *decipiens*, is newly recorded. The above description of biology is based on the population associated with this host plant.

Monochroa subcostipunctella Sakamaki, 1996 (Figs 7-C, 9-C, 11)

Monochroa subcostipunctella Sakamaki, 1996, *Jap. J. Ent.* **64**: 248, figs 1-C, D, 3.

On this occasion I wish to correct the original description of the antenna as follows. Antenna (Fig. 10) creamy whitish, ringed with a dark fuscous band in each segment, but 3rd, 5th, 7th, 9th and 11th segments from apex wholly fuscous.

Specimens examined. Additional specimens to Sakamaki (1996). JAPAN [Hokkaidô] —2 ♂ 1 ♀, Kuroisidaira, Kamisihoro Town, 23. vii. 1994, K. Sugisima leg.; 2 ♂ 19 ♀, Misumai, Sapporo City, em. 23. vi.-1. vii. 1995, ex *Juncus* sp., Y. Sakamaki leg.; 2 ♂ 1 ♀, *ditto* (light trap), 27. vii. 1995, Y. Sakamaki leg.; all in SEHU.

Distribution. Japan (Hokkaidô, Honsyû).

Host plant. *Juncus* sp. (Juncaceae) (new host record).

Biology. Early larvae enter stems of the host plant since May, when the host plant grows more than 30 cm high. The larvae transfer from a stem to another stem during the growth, and pupate in about early June therein. Adults emerge in the middle summer from mid July to early August and fly around basal parts of the host plant in day time.

Monochroa divisella (Douglas, 1850) (Figs 2, 7-D, 9-D, 11)

Gelechia divisella Douglas, 1850, *Trans. ent. Soc. Lond.* (N.S.) **1**: 60.

Catabrachmia csornensis Rebel, 1909, in Rothschild, *Rovart. Lap.* **16**: 145.

Monochroa zarichella Piskunov, 1975, *Ent. Obozr.* **65**: 867, fig.14.

Monochroa divisella: Sattler, 1992, *Entomologica gall.* **3**: 108.

♂ ♀. Expanse of wings: 11.2–13.3 mm. Length of fore wing: 5.8–6.2 mm.

Face and head brilliant ochre. Labial palpus (Fig. 9-D) dark fuscous; dorso-apical quarter of 2nd segment whitish ochre; terminal segment wholly whitish ochre. Antenna (Fig. 11) filiform, a little shorter than fore wing, whitish ochre, ringed with a fuscous band in each segment except in 2nd, 5th and 10th from apex which are wholly fuscous. Thorax smooth; greyish ochre with a longitudinal dark fuscous band on each lateral side. Legs dark fuscous; apices and ventrum of each segment of fore and mid tarsi yellowish ochre; hind femur scattered with ochre scales; hind tibia mixed with many ochreous scales, with numerous whitish ochre bristly scales occurring on dorsal and ventral sides; hind tarsus mixed with numerous yellowish ochre scales; calcaria irrorated with many yellowish ochre scales. Abdomen fuscous dorsally and laterally, paler ventrally.

Fore wing (Fig. 7-D) ochre in costal 2/5 and fuscous in dorsal 3/5, with 3 black stigmata, the 1st placed on base of costa, the 2nd on plica at basal 1/3 and the 3rd on disc; cilia pale fuscous, with 2 ochre lines, one at base and the other at middle of cilia. Hind wing fuscous, darkened apically; cilia grey.

Male genitalia (Figs 2-A, B). Valva elongated, with a rather broad harpe and a broad digitate sacculus; apical half of valva 1/3 as wide as basal half; harpe with numerous

long setae; basal lobe with a few long and many short setae ventrally. Uncus short, slender, weakly sclerotized, with 2 long, 4 short and 4 minute setae apically. Saccus pointed, medium in size. Aedeagus about 1.4 times as long as valva, sigmoid, with a strongly sclerotized protuberance occupying from middle to apical 1/4, the protuberance having numerous minute processes on its basal area; about 20 short cornuti arranged narrowly.

Female genitalia (Figs 2-C, D). Papilla analis weakly sclerotized, short, covered with minute spines on caudal half, some long and short setae occurring on almost whole surface; apophysis posterioris long, slender. Eighth abdominal segment sclerotized;

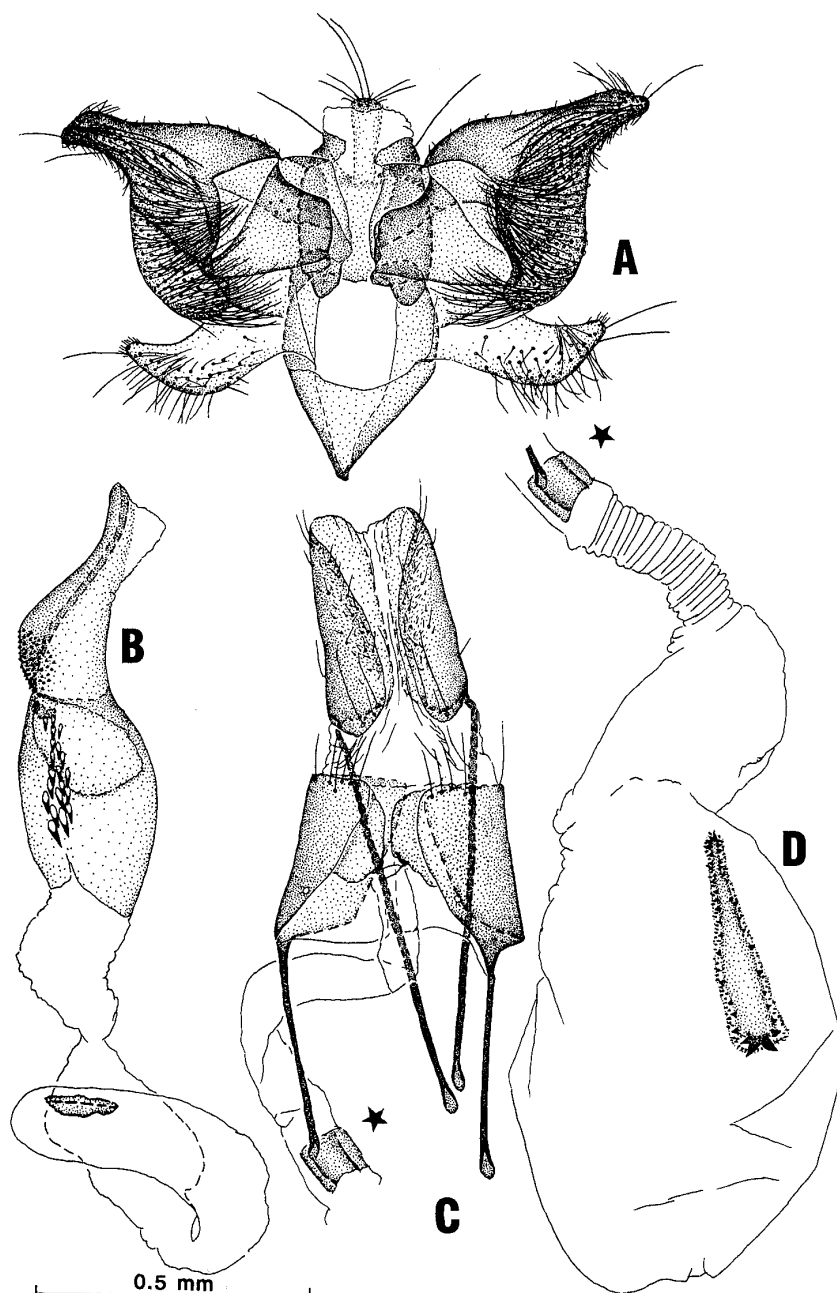


Fig. 2. Genitalia of *Monochroa divisella*. A: Male genitalia in caudal view, aedeagus omitted (Gen. m. 60). B: Aedeagus (*ditto*). C: Female genitalia in ventral view, bursa copulatrix omitted (Gen. f. 24). D: Bursa copulatrix (*ditto*).

apophysis anterioris slender, shorter than apophysis posterioris. Vaginal plate weakly sclerotized, separated into paired lobes. Ostium bursae membranous, narrow; ductus bursae moderate in length; cestum short, oblong; corpus bursae pyriform, membranous, with signum of a long and narrow plate surrounded by numerous minute processes, 2 of which on the cephalic margin become much larger.

Specimens examined. JAPAN [Honsyû]—1 ♀, Syôbu Town, Saitama Pref., em. 21. v. 1993, ex *Iris ensata* var. *spontanea*, Y. Sakamaki leg., in SEHU; 2 ♀, *ditto*, em. 13–19. vi. 1994, ex *Iris ensata* var. *spontanea*, Y. Sakamaki leg., in SEHU; 3 ♂ 1 ♀, Zyôyô City, Kyôto Pref., em. 23. v. 1981, ex *Iris ensata* var. *spontanea*, H. Ikejiri leg., in OMNH. NETHERLAND—2 ♂ 1 ♀, Kortenhoef, 18. vii.–3. viii. 1946, C. Doets leg., in Natuurhistorisch Nationaal Museum at Leiden.

Distribution. Palaearctic region from Europe to Japan (Honsyû) (new to Japan).

Host plants. *Iris pseudacorus* Linné (Iridaceae) in Europe and *Iris ensata* var. *spontanea* (Makino) Nakai (Iridaceae) in Japan (new record).

Biology. Early larvae enter leaves of host plants in autumn. The larvae grow rapidly, then may move from the leaf to the root stock to overwinter. They pupate in the next late spring, about early May, therein. Adults may emerge from early summer, about early June.

Remarks. This redescription is based only on the Japanese specimens. The Japanese specimens are somewhat smaller than the European ones (15–16 mm in expanse of wing in the European), but are not different from the European in other characters. The larval overwintering site on the root stock has not been observed.

Monochroa cleodora (Meyrick, 1935) (Figs 7-E, 9-E, 11)

Aristotelia cleodora Meyrick, 1935, *Exotic Microlepid.* 4: 583; Clarke, 1969, *Cat. Type Specimens Microlepid. Br. Mus. nat. Hist. descr. E. Meyrick* 6: 282, pl. 140, figs 2, 2a–2b; Moriuti, 1982, *Moths Japan* 1: 276, 2: 212, pl. 13, fig. 48.

Monochroa cleodora: Sakamaki, 1994, *Jap. J. Ent.* 62: 167, figs 1, 3-A, 4-A.

Specimens examined. Additional specimens to Sakamaki (1994). JAPAN [Honsyû]—2 ♂, Sanada Town, Nagano Pref. 30–31. vii. 1989, Y. S. Bae leg.; 1 ♂, Yogo Town, Siga Pref. 23. viii. 1992, Y. S. Bae leg., all in SEHU.

Distribution. Japan (Honsyû, Sikoku, Kyûsyû).

Host plant. Unknown.

Remarks. This species is rather related to the following, *M. cleodoroides*. *M. cleodora*, however, is distinguished from the other members of *Monochroa*, including *M. cleodoroides*, by the weakly sclerotized internal tube of the ductus bursae and by the signum with a quadrifid process.

Monochroa cleodoroides Sakamaki (Figs 7-F, 9-F, 11)

Monochroa cleodoroides Sakamaki, 1994, *Jap. J. Ent.* 62: 170, figs 2, 3-B, 4-B.

Specimens examined. Type series alone, see Sakamaki (1994).

Distribution. Japan (Honsyû, Kyûsyû).

Host plant. Unknown.

Remarks. This species is rather related to the preceding, *M. cleodora*, but is easily

distinguished from the latter by the following female genital characters: eighth abdominal segment with a pair of U-shaped ventral hollows, cestum longer, and signum with a bluntly triangular process on cephalic margin. In male genitalia, it may also be separated from *M. cleodora* by the cornuti arranged in a more sparse and regular row which becomes double in basal half of aedeagus.

***Monochroa japonica* Sakamaki, 1996 (Figs 8-A, 9-G, 10, 11)**

Monochroa japonica Sakamaki, 1996, *Jap. J. Ent.* **64**: 251, figs 1-E, F, 4.

The original description of the antenna is not accurate, so that the inaccuracy is revised here as follows. Antenna (Figs 10, 11) a little variable in colour, but typically creamy white, ringed with a dark fuscous band in each segment except for wholly fuscous 2nd, 3rd, 5th, 6th, 7th, 9th, 10th and 11th segments from apex and wholly white 4th, 8th and 12th segments; sometimes 2nd, 6th and 10th segments from apex ringed with a fuscous band; some segments on basal 1/5 of antenna always gold fuscous and darkened dorsally.

Specimens examined. Specimens additional to type series. JAPAN [Hokkaidô]—3 ♂ 3 ♀, Misumai, Sapporo City, larvae 19. x. 1994, vernalized to 25. i. 1995, em. 22. ii.–3. iii. 1995, ex *Polygonum thunbergii*, Y. Sakamaki leg.; 17 ♂ 23 ♀, ditto, vernalized to 30. iv. 1995, em. 15. v.–4. vi. 1995, Y. Sakamaki leg., all in SEHU.

Distribution. Japan (Hokkaidô, Honsyû, Kyûsyû).

Host plant. *Polygonum thunbergii* Sieb. et Zucc. (Polygonaceae).

Biology. Larvae enter stems of the host plant from autumn to spring, pupate in the late spring therein. Adults emerge in the early summer and fly around basal parts of the host plant.

Remarks. This species is closely related to *M. simplicella* (Lienig and Zeller, 1846), *M. cleodora* and *M. cleodoroides*. It is, however, clearly discriminated from these three species and other members of the genus by the following characters. In the male genitalia the valva is more than twice as long as the saccus, and in the female genitalia the signum has 2 pairs of minute processes on its cephalic margin.

***Monochroa hornigi* (Staudinger, 1883) (Figs 3-A, B, 8-B, 9-H, 11)**

Doryphora hornigi Staudinger, 1883, *Stettin. ent. Ztg* **44**: 184.

Xystophora hornigi: Caradja, 1902, *Bull. Soc. Sci. Bukarest* **11**: 617.

Aristotelia hornigi: Meyrick, 1925, in Wytsman, *Genera Insect.* **184**: 42.

Monochroa nordmanella Bruun, 1957, *Notul. ent.* **37**: 118, fig. 1.

♂. Expanse of wings: 11.6 mm. Length of fore wing: 5.4 mm.

Face and head brilliant whitish ochre. Labial palpus (Fig. 9-H) dark brownish fuscous; 2nd segment ochreous at base and apex; terminal segment with an obscure narrow ochre band at middle. Antenna (Fig. 11) filiform, dark brownish fuscous except for apical 1st, 4th, 8th and 12th segments, these segments ringed with a whitish ochre band. Thorax smooth, dark brownish fuscous. Legs dark fuscous; apex of each segment of tibiae and tarsi yellowish ochre; hind tibia with a whitish ochre band at middle and ochre bristly scales dorsally; calcaria dark fuscous, with golden apices. Abdomen not observed.

Fore wing (Fig. 8-B) dark fuscous, with 2 black stigmata on plica and disc; an ochre, obliquely narrow, triangular blotch on apical 1/3 of costa and also on tornus; 3 ochre minute dots on costa between costal triangular blotch and apex of fore wing, 3 similar

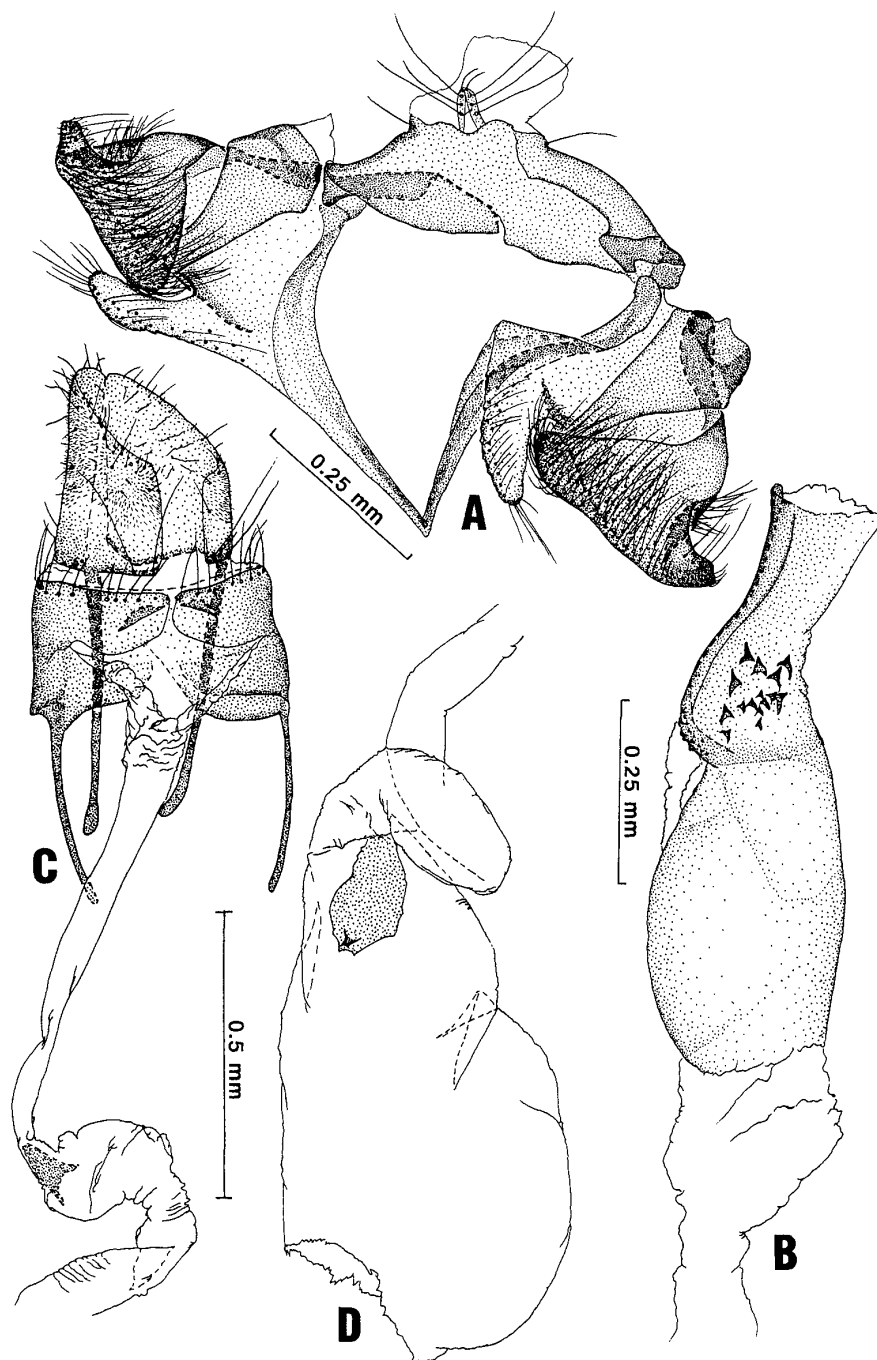


Fig. 3. Genitalia of *Monochroa hornigi* (A & B) and *M. leptocrossa* n. comb. (C & D). A: Male genitalia in caudal view, aedeagus omitted (Gen. sl. no. Gel. 93024). B: Aedeagus (*ditto*). C: Female genitalia in ventral view, bursa copulatrix omitted (Gen. sl. no. Gel. 92033). D: Bursa copulatrix (*ditto*).

dots on termen; cilia ochre, with a pale fuscous subbasal line. Hind wing fuscous; cilia pale fuscous.

Male genitalia (Figs 3-A, B). Valva elongated, with a broad harpe and a broad digitate sacculus; apex of valva strongly sclerotized, somewhat broad, turned back dorsally; harpe with numerous long setae; sacculus with some long setae ventrally. Uncus short, slender, weakly sclerotized, with 6 long and 2 short setae apically. Saccus pointed,

medium in size. Aedeagus about twice as long as valva, broad, somewhat sigmoid, with numerous minute processes on a protuberance at apical 2/5; about 15 cornuti short, thick.

Specimen examined. JAPAN [Hokkaidô]—1 ♂, Zyôzankei, Sapporo City, 6. vii. 1971, T. Kumata leg., in SEHU.

Distribution. Palaearctic region from Europe to Japan (Hokkaidô) (new to Japan).

Host plants. *Polygonum* spp. (Polygonaceae) in Europe; unknown in Japan.

Remarks. This species is distinguished from other members of this genus by the broadly back-turned apex of the male valva. *M. hornigi* is similar to *M. leptocrossa* (Meyrick, 1926) in the colour patterns of the labial palpus and fore wing, but, in the female genitalia, it is easily discriminated from the latter by the 8th abdominal segment without any ventral hollows and by the square cestum (in *M. leptocrossa* the 8th segment has a pair of distinct crescent hollows and the cestum is triangular). The female genitalia of *M. hornigi* are described and illustrated by Bruun (1957) as *M. nordmanella*.

***Monochroa leptocrossa* (Meyrick, 1926), n. comb. (Figs 3-C, D, 8-C, 9-I, 11)**

Aristotelia leptocrossa Meyrick, 1926, *Exotic Microlepid.* 3: 273; Clarke, 1969, *Cat. Type Specimens Microlepid. Br. Mus. nat. Hist. descr. E. Meyrick* 6: 293, pl. 145, figs 3-3b.

Original description by Meyrick. “♀. 11 mm. Head whitish, crown greyish tinged. Palpi whitish, irrorated dark grey except apex of joints and middle of terminal joints. Thorax grey. Fore wings 6 separate; grey speckled whitish and sprinkled dark grey; plical and second discal stigmata small, black, distinct; a cloudy white dot on costa at 2/3, and one on tornus slightly before it: cilia light grey, a subbasal dark grey shade cut by indistinct slender bars of whitish suffusion from base. Hind wings grey slightly bluish tinged; cilia light grey.”

Additional description. Expanse of wings: 8.9–10.7 mm. Length of fore wing: 3.8–4.8 mm.

Antenna (Fig. 11) filiform, a little shorter than fore wing, ochre, ringed with a fuscous band in each segment except for 2nd, 3rd, 5th, 6th, 8th and 10th segments from apex, these segments being wholly dark fuscous. Legs pale fuscous; apex of each segment whitish ochre; hind tibia with a whitish ochre band at middle and many whitish ochre bristly scales above; calcaria dark fuscous, with golden apices. Abdomen not observed.

Female genitalia (Figs 3-C, D). Papilla analis weakly sclerotized, short, covered with minute spines on caudal half; some long and short setae occurring on almost whole surface; apophysis posterioris long, slender. Eighth abdominal segment sclerotized, with a pair of distinct crescent hollows ventrally; apophysis anterioris slender, shorter than apophysis posterioris. Vaginal plate weakly sclerotized, separated in cephalic half. Ostium bursae membranous; ductus bursae moderate in length; cestum short, triangular; corpus bursae pyriform, membranous, with a long oval signum, which has a bicuspid process on the cephalic margin.

Specimens examined. JAPAN [Hokkaidô]—1 ♀, Horokanai Town, 29. vii. 1958, T. Kumata leg.; 1 ♀, Yobetu, Syakotan Town, 7–8. vii. 1994, T. Kumata leg., all in SEHU.

Distribution. Russia (Far East) and Japan (Hokkaidô) (new to Japan).

Host plant. Unknown.

Remarks. Male of this species is unknown. In wing markings this species is similar to *M. hornigi* and *M. japonica*, but is distinguishable from them and the other members of the genus in the female 8th abdominal segment with a pair of distinct crescent hollows ventrally. This species has been treated as a member of *Aristotelia*, but it is able to transfer it to the genus *Monochroa*, because it does not have the lamella antevaginalis and it is rather similar to *M. hornigi* and *M. japonica* in external aspect.

***Monochroa pallida* n. sp.** (Figs 4, 5-A, 8-D, 9-J, 11)

Paltodora cytisella: Sakamaki, 1993, *Tyô Ga* 44: 21, figs 1-b, 3 and 4 (misidentification; nec Curtis, 1837).

♂ ♀. Expanse of wings: 8.9–10.6 mm. Length of fore wing: 4.2–4.8 mm.

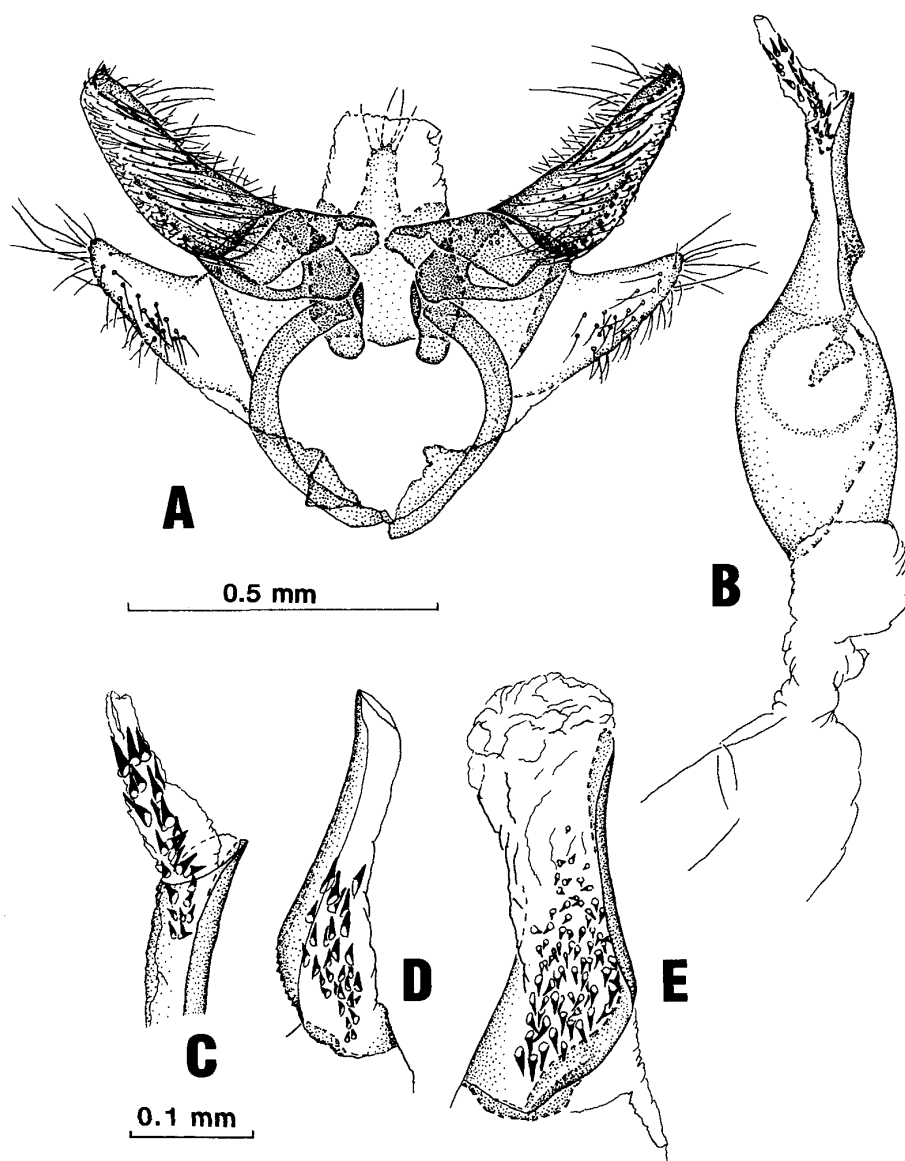


Fig. 4. Genitalia of *Monochroa pallida* n. sp. (A, B, C, D) and *M. cytisella* (E). A: Male genitalia in caudal view, aedeagus omitted (Gen. sl. no. Gel. 95019, holotype). B: Aedeagus (*ditto*). C: Cornuti (*ditto*). D: Cornuti (Gel. 92026, paratype). E: Cornuti of *M. cytisella* (Gel. 93073).

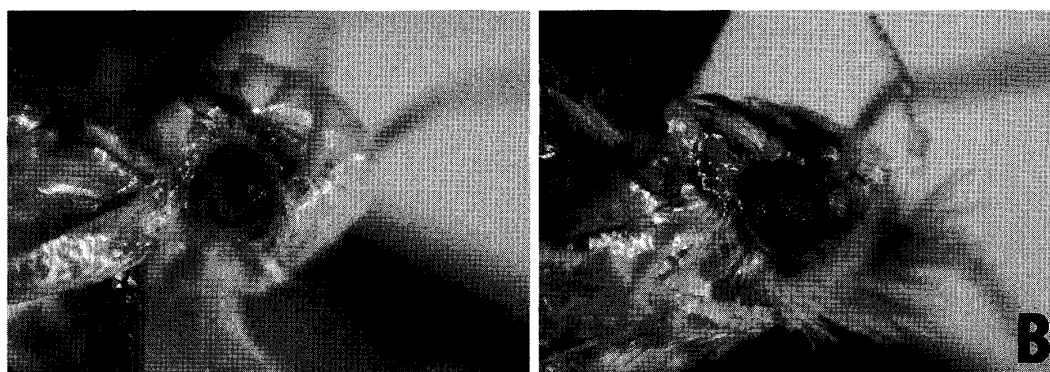


Fig. 5. Profile of head, showing ocellar area. A: *Monochroa pallida* n. sp. B: *M. cytisella*.

Face and head whitish ochre. Labial palpus (Fig. 9-J) white; 2nd segment with roughly spreading, long hairs ventrally and dark fuscous scales at ventro-apical quarter; terminal segment with a short fuscous band at apex. Antenna (Fig. 11) filiform, a little shorter than fore wing, pale fuscous except for some segments scattered in apical part, the 4th, 8th and 12th segments from apex being wholly white, and the 1st, 11th, 13th, 14th and 15th banded with white. Thorax smooth, yellowish ochre; tegula yellow. Legs fuscous, each segment white apically; fore and mid tarsi whitish; hind tibia with a whitish band at middle and rough long bristly scales above; calcaria fuscous, with white apices. Abdomen fuscous, with a ochre crescent blotch on each ventrum of 3rd to 6th segments.

Fore wing (Fig. 8-D) ochre yellow, darkened towards apical and costal margins; two parallel oblique fasciae: one fascia dark fuscous and running from middle point of costa toward disc, and another fascia white and running from apical 1/3 of costa to middle of termen; a white outwards-oblique strigula from tornus to disc; 3 minute white dots placed on apical 1/3 of costa; similar 3 dots on termen; cilia ochre, with a subbasal black line and an apical line. Hind wing and its cilia greyish fuscous.

Male genitalia (Figs 4-A, B, C, D). Valva somewhat narrowly elongated; harpe narrow; inner surfaces of valva with numerous long setae; sacculus digitate, a little sclerotized, with some short setae ventrally. Uncus weakly sclerotized, narrowly spatulate, with 2 long and 4 short setae apically. Aedeagus pyriform, about 1.2 times as long as valva, strongly sclerotized on apical half, with numerous minute cornuti.

Female genitalia (see Sakamaki, 1993, figs 3-C, D). Papilla analis weakly sclerotized, moderate in length, with some long setae, some short ones and some longitudinal plicae on almost whole surface, and with numerous minute spines on caudal margin; apophysis posterioris long, slender, slightly swollen at apex. Eighth abdominal segment short, sclerotized, with some long setae on caudal margin; apophysis anterioris shorter than apophysis posterioris. Vaginal plate weakly sclerotized, separated into a pair of lobes. Ostium bursae membranous; ductus bursae moderate in length, with coiled plicae and numerous minute spines on caudal half; cestum sclerotized in a recurved square form; corpus bursae pyriform, membranous, with an oblong signum which has double crescent points.

Specimens examined. Holotype ♂, Kisoziyara, Nagawa Vill., Nagano Pref., Honsyū, Japan, 2. viii. 1989, T. Kumata leg., Genital slide no. Gel. 95019, in SEHU. Paratypes. JAPAN [Hokkaidō]—1 ♀, Mosiri, Horokanai Town, 21. vii. 1991, Y. Sakamaki leg., in SEHU; 1 ♂, Wassamu Town, Kamikawa, 24. viii. 1962, T. Kumata leg., Gen. sl. no. Gel. 92026, in SEHU; 1 ♂, Kamuikotan, 17. vii. 1952, A. Mutuura leg., in ELUS; 1 ♀, Siriuti

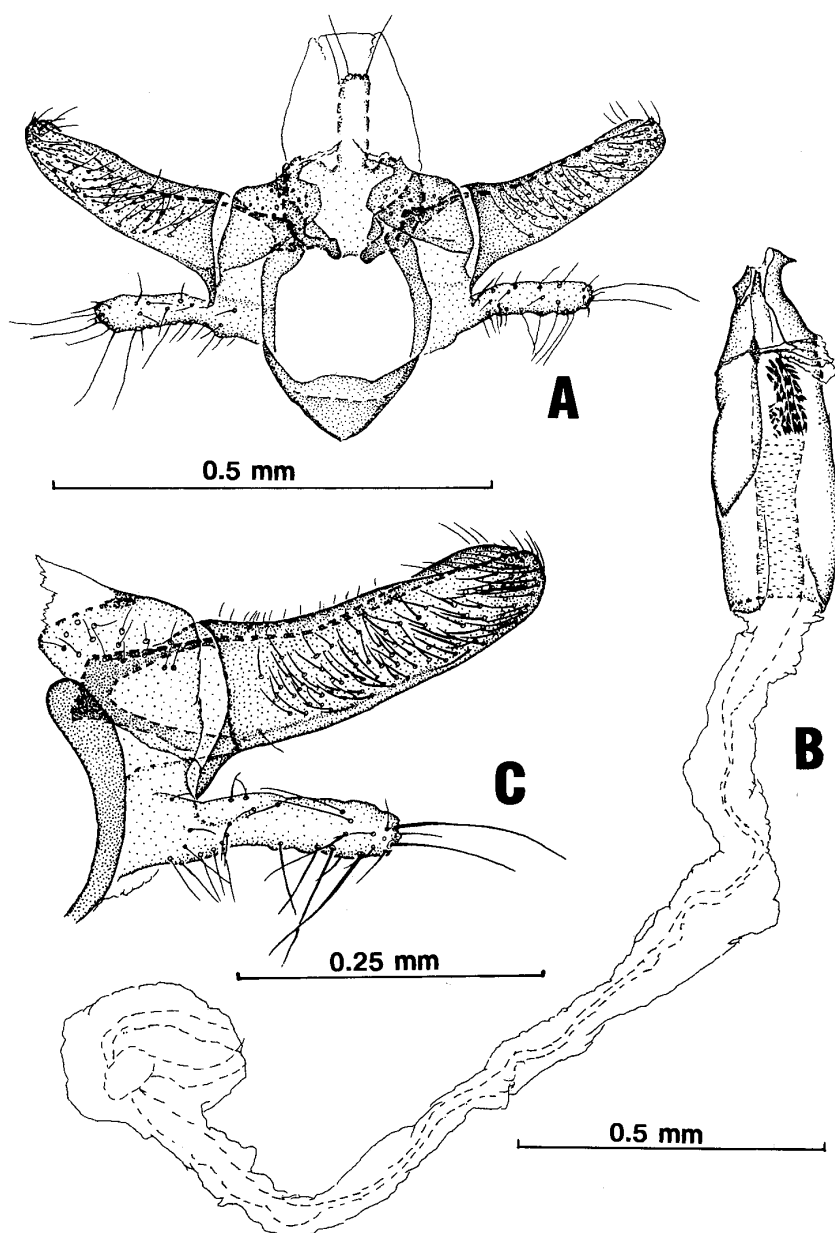


Fig. 6. Genitalia of *Monochroa pentameris* n. comb. A: Male genitalia in caudal view, aedeagus omitted (Gen. sl. no. Gel. 95016). B: Aedeagus (*ditto*). C: Valva (*ditto*).

Town, Osima, 6. viii. 1976, T. Kumata leg., in SEHU. [Honsyû]—1 ♀, Ôtani, Suzu City, Isikawa Pref., 8. vii. 1991, T. Ueda leg., Gen. sl. no. Gel. 95020, in ELUS; 1 ♀, same data as holotype, in SEHU.

Distribution. Japan (Hokkaidô, Honsyû).

Host plant. Unknown.

Remarks. This new species was once identified as *M. cytisella* (Curtis, 1837) by Sakamaki (1993). After the examination of the authentic European materials of *M. cytisella* (1 ♂ 1 ♀, Grib skov, Sjælland, Denmark, em. 15. vi. 1992, *ex Pteris aquilina*, H. Hendriksen leg.; 1 ♂, Centaris, Aritzo, Strada Panoramica, ca 1,000 m, Sardegna, Italy, 8. vii. 1978, C. M. Brandstetter leg.), I have come to a conclusion that the Japanese specimens represent a new species different from the European *M. cytisella* in the following charac-

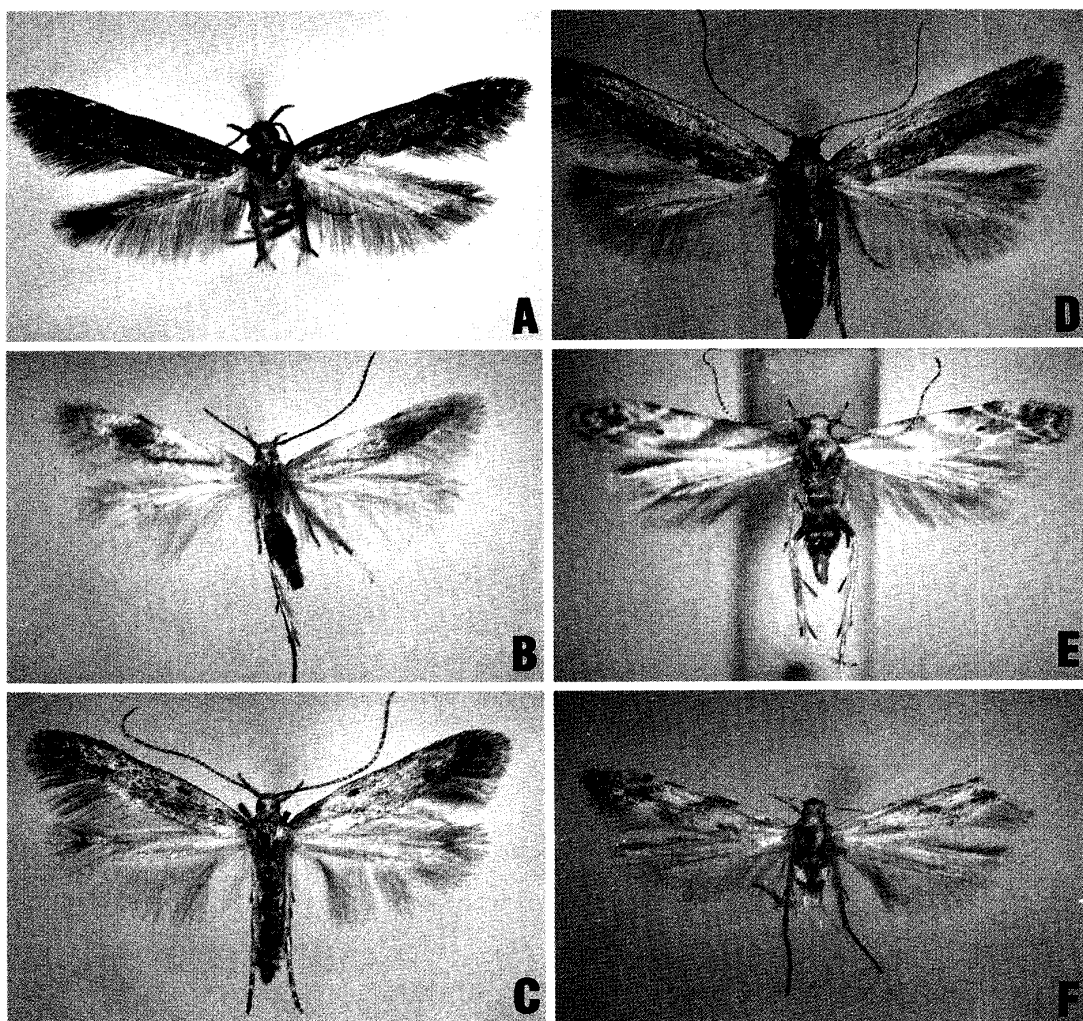


Fig. 7. Adult specimens of *Monochroa* spp. A: *M. kumatai* n. sp. B: *M. suffusella*. C: *M. subcostipunctella*. D: *M. divisella*. E: *M. cleodora*. F: *M. cleodoroides*.

ters: Ocellus rudimentary or missing (while in *M. cytisella* ocellus is apparently present) (Figs 5-A, B); 2nd segment of labial palpus having less spread hairy scales than that of *M. cytisella* or having only somewhat rough scales (Figs 9-J, K); fore wing paler than *M. cytisella* and an obscure dark fuscous fascia running from middle point of costa toward disc (Figs 8-D, E); in male genitalia cornuti of aedeagus are fewer than those of *M. cytisella* (in *M. pallida* the number of cornuti is about 30, while in *M. cytisella* it is about 70) (Figs 4-C, D, E). Moreover, *M. pallida* is somewhat different from *M. cytisella* in colour pattern as follows, though the differences between them are not so clear. Dorsal part of abdomen silvery fuscous; antenna with 3 wholly white segments (4th, 8th and 12th from apex) and 4 white-banded segments (1st, 11th, 13th and 14th from apex). In *M. cytisella*, the dorsal part of abdomen is blackish fuscous and the antenna has two wholly white segments (4th and 8th from apex) and a single white-banded one (1st from apex).

The monobasic genus *Paltodora* (type species: *Cleodora cytisella*) has long been treated as an independent genus characterized by the spread hairy scales of the labial palpus. The present new species provides an intermediate condition of the scales of the labial palpus between the genera *Paltodora* and *Monochroa*, that is, the scales are a little spread or not spread at all. The other characters of the new species are very similar to those

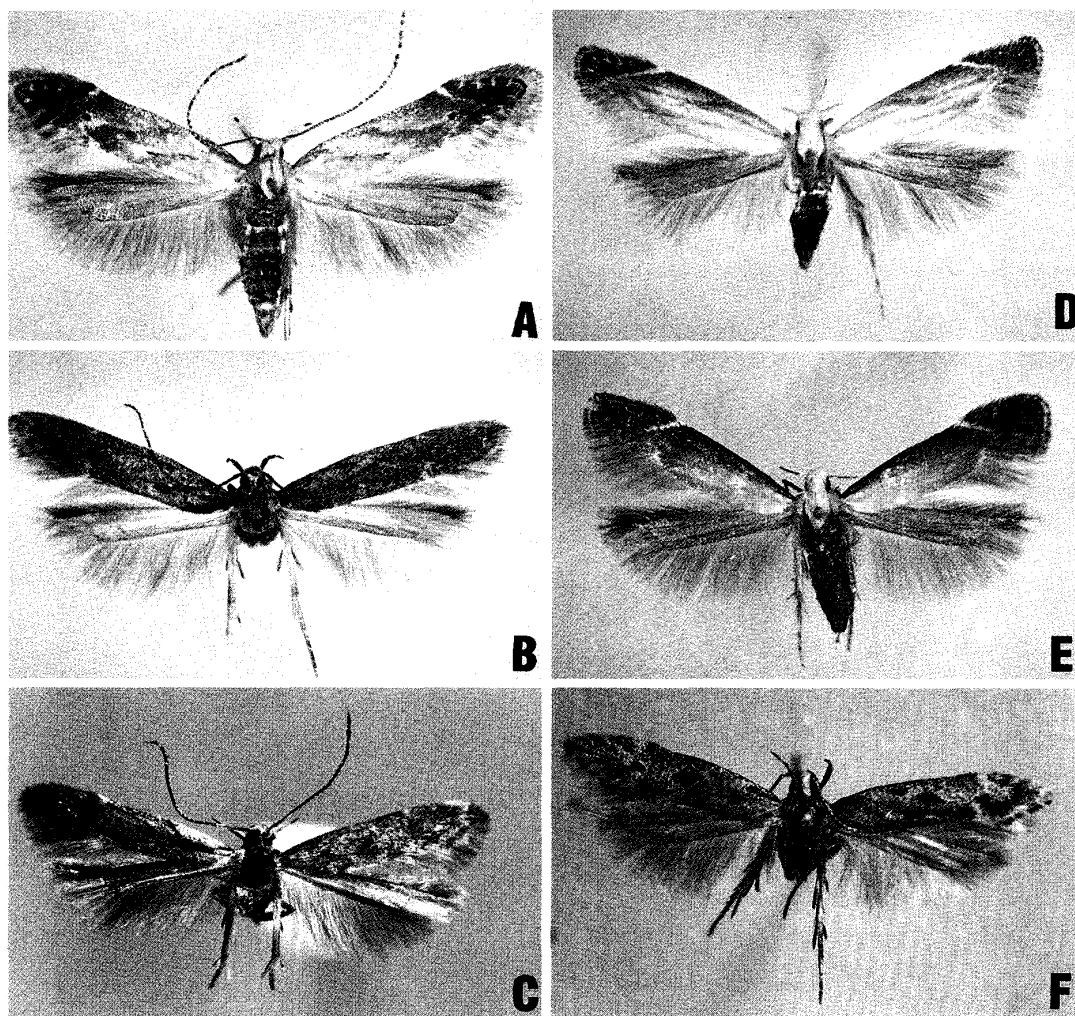


Fig. 8. Adult specimens of *Monochroa* spp. A: *M. japonica*. B: *M. hornigi*. C: *M. leptocrossa* n. comb. D: *M. pallida* n. sp. E: *M. cytisella*. F: *M. pentameris* n. comb.

of the type species of *Paltodora*. These characters, however, are completely congruent with the diagnosis of the genus *Monochroa*. By these reasons, I wish to follow Sattler (1992) who treated the genus *Paltodora* as a junior synonym of the genus *Monochroa*.

***Monochroa pentameris* (Meyrick, 1931), n. comb. (Figs 6, 8-F, 9-L, 11)**

Aristotelia pentameris Meyrick, 1931, in Caradja, *Bull. Sect. scient. Acad. roum.* **14**: 8; Clarke, 1969, *Cat.*

Type Specimens Microlepid. Br. Mus. nat. Hist. descr. E. Meyrick **6**: 298, pl. 148, figs 2-2c.

Monochroa sp.: Ueda, Yamate and Sagara, 1995, *Trans. lepid. Soc. Japan* **46**: 147.

Original description by Meyrick. "♂ ♀. 8-9 mm. Head white, slightly mixed greyish. Palpi white, second joint blackish except tip, terminal joint with two black bands. Antennae white, ringed with a dark fuscous band, apical 2/5 with 5 narrow blackish bands. Thorax white irrorated grey. Forewings elongate-lanceolate; 6 separate; white irrorated grey, costa sometimes irrorated blackish; a blackish spot near costa towards base, and one in disc beyond it, sometimes connected; stigmata forming small black spots, plical obliquely before first discal; blackish spots on or near costa at 1/3 and 2/3; apical area more or less suffused dark grey, with 4 small blackish-grey spots on

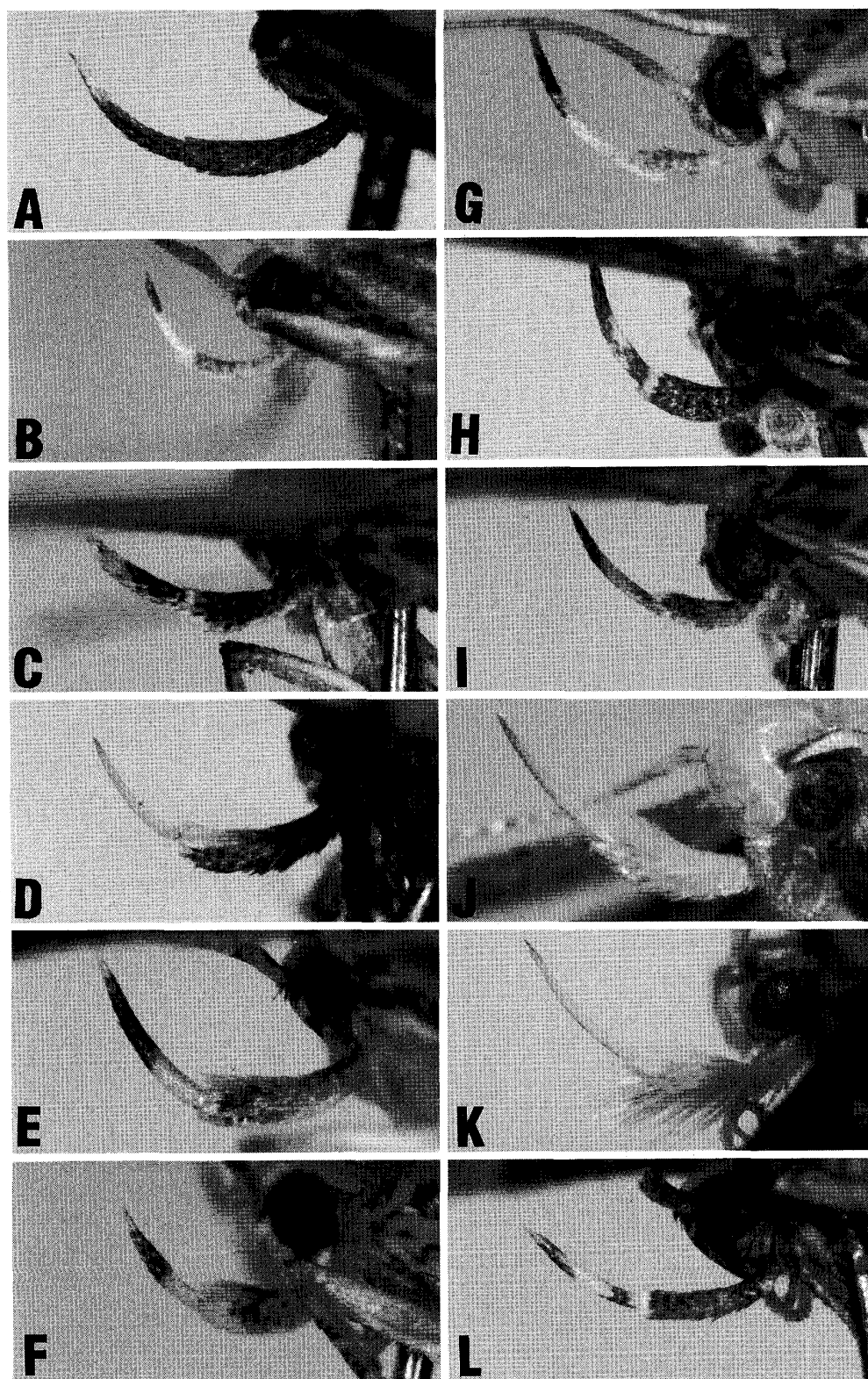


Fig. 9. Labial palpi of *Monochroa* spp. A: *M. kumatai* n. sp. B: *M. suffusella*. C: *M. subcostipunctella*. D: *M. divisella*. E: *M. cleodora*. F: *M. cleodoroides*. G: *M. japonica*. H: *M. hornigi*. I: *M. leptocrossa* n. comb. J: *M. pallida* n. sp. K: *M. cytisella*. L: *M. pentameris* n. comb.

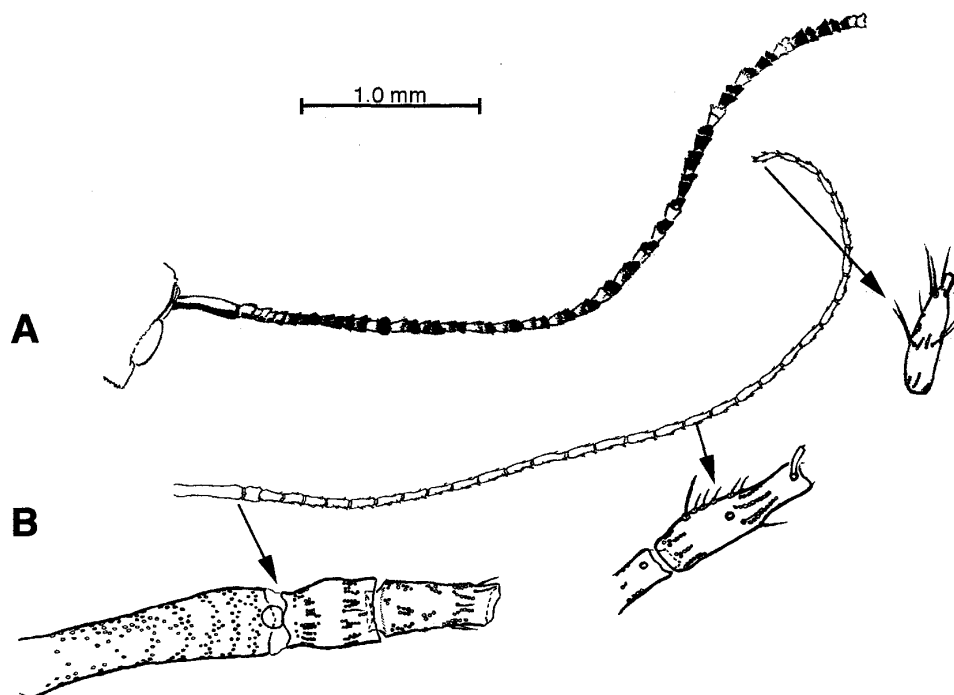


Fig. 10. Antenna of *Monochroa japonica*. A: Coloration of antenna. B: Segmentation of antenna. Each segment of antenna puts on two rings of scales.

costa separated with whitish: cilia grey mixed whitish, a blackish subbasal line round apex. Hindwings grey; cilia light grey.

4 ex., July. Perhaps nearest *aphromorpha*, also related to North American forms."

Additional description. ♂. Expanse of wings: 9.0–10.0 mm. Length of fore wing: 4.0–4.6 mm.

Face and head whitish ochre, with fuscous scales on the edge of frons. Labial palpus (Fig. 9-L) whitish ochre; 2nd segment fuscous, with white apex; terminal segment with two fuscous bands, the basal band occupying basal 1/4 and the apical one occupying apical 1/3 with white apex. Antenna (Fig. 11) whitish ochre, with a fuscous ring on apical half of each segment, but scape and apical 3rd, 5th, 7th, 9th and 11th segments from apex wholly fuscous, and segments on basal 1/6 gold fuscous with dark dorsal side.

Thorax whitish ochre, with some fuscous scales on subdorsal area; tegula whitish ochre, with a broad fuscous band on cephalic half. Legs fuscous; each segment with apex whitish ochre apically; mid and hind tibiae with further two white bands at basal and middle parts; hind tibia with whitish ochre bristly scales dorsally; calcaria fuscous, with white apices. Abdomen greyish ochre dorsally and whitish ventrally.

Male genitalia (Figs 6-A, B, C). Valva elongated, narrow, with no swollen harpe; sacculus digitate; apex of valva little pointed; harpe with numerous setae inside; digitate sacculus with many short setae on almost whole surface, and with a few long setae at apical part. Uncus elongated, narrow, rather weakly sclerotized, with 2 or 3 long setae apically. Saccus pointed, medium in size. Aedeagus somewhat broad, taper-cylindrical, about 1.2 times as long as valva, with numerous minute cornuti; 2 minute sclerotized hooks at apex, or sometimes missing.

Specimens examined. JAPAN [Honsyū]—1 ♂, Kitamata, Kawakami Vill., Nara Pref., 5. viii. 1992, T. Ueda leg.; 2 ♂, *ditto*, 13. vii. 1993, T. Ueda leg.; 1 ♂, Asa, Hiroshima City, Hiroshima Pref., 28. vi. 1992, Y. Yamate leg; all in ELUS.

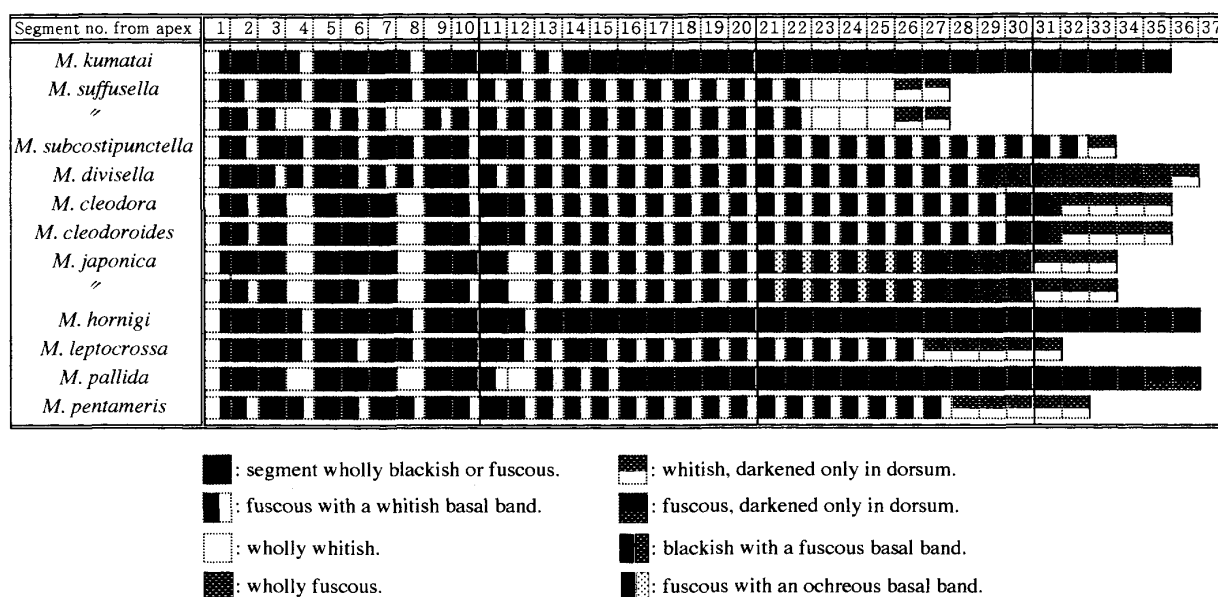


Fig. 11. Schematic diagram of antennal coloration in members of *Monochroa*.

Distribution. China (Guangxi), Japan (Honsyū).

Host plant. Unknown.

Remarks. The additional description is based on the Japanese specimens. In male genitalia this species is similar to *M. rumicetella* (Hofmann, 1868), but is clearly distinguished from the latter by the wing markings with 6 distinct stigmata. This species has been treated as a member of *Aristotelia*, but it is able to transfer it to the genus *Monochroa* on the basis of the following male genital characters: diminutive uncus, missing gnathos, a little developed harpe and digitate sacculus.

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摘 要

日本産 *Monochroa* 属の再検討 (鱗翅目, キバガ科) (坂巻 祥孝)

Monochroa 属は全北区で約 40 種分布することが知られている。このうちの 6 種が日本に分布することが最近になって分かってきた。今回日本産の本属標本 250 個体以上を観察し、更にヨーロッパ産の各種標本と見比べた結果、本邦から 2 新種を含む 11 種を見いだすことが出来た。2 新種 *M. kumatai*, *M. pallida* のうちの後者は、Sakamaki (1993) で *Paltodora cytisella* と誤同定されたものであるが、Sattler (1992) の取り扱いに従い、*Paltodora* を *Monochroa* のシノニムとして扱った結果、本新種は *Monochroa* 属に含むべきものであると判断された。また、4 既記載種 *M. pentameris*, *M. leptocrossa*, *M. hornigi*, *M. divisella* が本邦より新たに記録された。これらのうち *M. pentameris* と *M. leptocrossa* は本研究にて新たに *Aristotelia* 属より移動したものである。

[属の特徴]

Monochroa 属は、*Argolamprotes*, *Eulamprotes*, *Daltopora* 属などに近縁とされている。本属の雄交尾器はこれらの近縁他属に比べて属内で構造の変化が著しいが、以下の形質を兼ね備えることで他属から見分けることが可能である。

Valva は先端に向かって細まり、その内面には多くの長い刺毛を備える；harpe は多かれ少なかれ

丸く、膨らむ；sacculusは指状に伸長する；aedeagusには多くの細かな cornuti を備える。

また各種の同定にあたっては Figs 9, 11 に示すように labial palpus や触角の色彩パターンも有用である。

[各種の特徴]

Monochroa kumatai n. sp. (新種) (Figs 1, 7-A, 9-A, 11) クマタシラホシキバガ (新称)

外見上 labial palpus が末端節先端以外すべて黒いことで日本産同属他種から容易に区別が可能。本種はヨーロッパ産の *M. inflexella*, *M. lutulentella* および *M. elongella* に類似するが、単眼が消失していることで *M. lutulentella* とは見分けられ、雄ならば交尾器 aedeagus の cornuti が *M. inflexella* (0.05 mm) より短く *M. elongella* (0.015 mm) より長いこと (本種では 0.03 mm)、雌ならば signum 上の尖突起が頭部側の縁に並ぶことで見分けられる。寄主植物は不明。北海道と本州に分布し、成虫の出現期は7月中旬から8月中旬。

Monochroa suffusella (Douglas, 1850) (Figs 7-B, 9-B, 11) イグサキバガ (新称)

前翅の基部から前翅長の2/3の前縁上に黒褐色の斑紋が現れることで同属の他種から区別される。本種は旧北区全体に広く分布し、日本でも北海道と本州に分布する。寄主植物はカヤツリグサ科のワタスゲ属 (*Eriophorum*) とスゲ属 (*Carex*) が記録されているが、今回新たにイグサ科のイ (*Juncus effusa* var. *decipiens*) も寄主植物であることが分かった。幼虫は春に寄主植物の茎に潜っており、成虫は6月中旬から7月に見られる。

Monochroa subcostipunctella Sakamaki, 1996 (Figs 7-C, 9-C, 11) ニセイグサキバガ (新称)

前種に近縁と思われるが、基部から前翅長の1/3のSc脈上に明瞭な黒い斑紋が現れることで前種とは容易に区別できる。北海道と本州に分布。寄主植物はイグサ属 (*Juncus* sp.) で幼虫は前種と同様に春に茎の中から見つかるが、成虫の出現期は、7月の中旬から8月の初旬である。

Monochroa divisella (Douglas, 1850) (Figs 2, 7-D, 9-D, 11) (日本新記録種) アヤメキバガ (新称)

前翅地色の costa 側 2/5 が麦わら色で dorsum 側 3/5 が茶褐色に明瞭に分かれているという点で他種からの区別は容易。ヨーロッパから日本まで旧北区に広く分布し、寄主植物はアヤメ属 (*Iris* spp.). 幼虫は前年秋に寄主植物の葉に潜り、球根またはその周辺で幼虫越冬。翌年春に蛹化し、成虫は室内飼育では5月下旬から6月中旬に羽化。

Monochroa cleodora (Meyrick, 1935) (Figs 7-E, 9-E, 11) ウスキマダラキバガ

外部標徴では次種との区別は困難。雌交尾器の ductus bursae 内に薄くキチン化した筒状構造があること、signum 上の尖突起が先端で4又していることで同属他種との区別が可能である。寄主植物は不明。本州、四国、九州に分布。成虫は7月下旬から8月下旬まで出現。

Monochroa cleodoroides Sakamaki, 1994 (Figs 7-F, 9-F, 11) ヒメスキマダラキバガ (新称)

外部標徴では前種との区別は困難。雌交尾器の cestum は長く伸長し、前種のような筒状構造は無い。Signum 上の尖突起は先端で丸く途切れることで同属他種との区別が可能である。寄主植物は不明。本州、九州に分布。成虫は6月中旬から7月下旬まで出現。

Monochroa japonica Sakamaki, 1996 (Figs 8-A, 9-G, 10, 11) ミゾソバキバガ (新称)

前述の2種に酷似するが、前翅の地色が前述2種では白色であるのに対し、麦わら色から褐色であることで判別は容易。北海道、本州、九州に分布。寄主植物はミゾソバ (*Polygonum thunbergii*). 幼虫は前年秋に寄主植物の茎に潜り内部を食害した後、その場で幼虫越冬。晩春に蛹化し、成虫は6月下旬から8月初旬に出現。

Monochroa hornigi (Staudinger, 1883) (Figs 3-A, B, 8-B, 9-H, 11) (日本新記録種) ホーニツヒチャマダラキバガ (新称)

次種に酷似するが Bruun (1957) の雌の交尾器の記述に拠れば第8腹節の腹面に次種のような極端なくぼみがないことで区別できる。ヨーロッパから日本まで旧北区全体に広く分布する。ヨーロッパでの寄主植物は *Polygonum* 属 (*Polygonum* spp.). 北海道の札幌で7月初旬に1♂が採れている。

Monochroa leptocrossa (Meyrick, 1926), n. comb. (新結合) (Figs 3-C, D, 8-C, 9-I, 11) ウスイロフサベリキバガ (新称)

前種に酷似するが雌の交尾器の第8腹節の腹面に極端な三日月型のくぼみがあることで区別できる。分布はロシア(シベリア)と北海道。寄主植物は不明。北海道の幌加内町と積丹町で7月に1♀ずつ採集されている。

Monochroa pallida n. sp. (新種) (Figs 4, 5-A, 8-D, 9-J, 11) マエチャキバガ

本種は, Sakamaki (1993) で *Paltodora cytisella* と誤同定されたものであるが, 更に多くの標本を得て, ヨーロッパ産の *M. cytisella* と比較したところ, 単眼が痕跡的になっていること, labial palpus の第2節に毛髪状に発達した鱗片群がほとんどないこと, 前翅の地色がより薄く前縁の中央部から翅頂部に向けて不明瞭ながら, 暗褐色の帯が走ること, 雄交尾器 aedeagus の cornuti が *M. cytisella* よりも少なく30程度であることなどから, 新種であると判断された。寄主植物は不明。北海道と本州に分布し, 成虫は7月中旬から8月下旬に出現する。

Monochroa pentameris (Meyrick, 1931), n. comb. (新結合) (Figs 6, 8-F, 9-L, 11) イツボシマダラキバガ (新称)

本種は前翅に4-6個の暗褐色の斑紋が現れ, 外部標徴による判別は容易である。寄主植物は不明。本州(奈良県と広島県)で6月下旬から8月上旬にかけて成虫が採集されたのみである。

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